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THE BUSINESS OUTLOOK AND MONETARY RESTRAINT

by
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A key factor in the business outlook is the program of monetary restraint now being followed by the Federal Reserve System. Designed to restrain total spending to limits consistent with sound economic growth, the program has resulted in reducing the availability of money, raising interest rates to both borrowers and savers, and squeezing operating margins.

The changed relationships in the money market have been greeted with widespread misunderstanding and protest. The impact of reduced availability of money and higher interest rates rests with unequal severity upon different groups of borrowers. Certain groups of borrowers accept the change readily, but others find it increasingly difficult to make the adjustment. Particularly hard hit have been home builders, small businessmen, and municipal and school authorities.

The rising chorus of dissent over tighter money policies suggests the need for a better understanding of our monetary mechanism and money market.

First, we must recognize that rising interest rates are characteristic of booming business. Instead of being an indication of weakness, they are an indication of strength. Rising interest rates indicate that the demand for money exceeds the supply.

Higher interest rates are something new in the experience of many of us. We have become accustomed to rising costs of all kinds, to higher salary and wage costs, to higher material costs, to higher taxes, to higher transportation charges, but when it comes to paying a higher price for money we begin to think that something is wrong. Indeed, many people seem to think that the banks are taking advantage of the situation and are engaging in profiteering.

What is happening is that far-reaching economic adjustments are taking place. Interest rates for the past 25 years have been abnormally low. Now, interest rates are simply beginning to catch up with the procession and are beginning to get back to their historical relationship with other distributive factors. This means that as a part of our thinking about the future we must be prepared to accept higher costs of money just as we have accepted, and live with, higher labor and material costs and higher taxes.

Second, we must recognize that a program of monetary restraint is urgently needed in the present situation to prevent further inflation. We have heard a lot about inflation. What it means to most of us is that sharp and undesirable over-all price rises take place, that the purchasing power of our monetary unit declines, that it takes more dollars to buy a given amount of goods and services. Inflation eats away or diminishes the value of savings accounts, holdings of savings bonds, the value of life insurance policies, and the value of any fixed income payment. Inflation feeds upon itself, resulting in upward spiraling wages and costs. It encourages speculation. It transfers wealth and income from the poor to the rich. It upsets planning for investment and expansion programs and thoroughly deranges Government tax and expenditure relationships. Above all, inflation, if allowed to run its course, can end only in reaction and crisis, followed by recession or depression.

Let us understand that at the moment we appear to be facing another year of upward price pressures. There seems to be general agreement among forecasters that gross national product for 1957 will be somewhere around $434.5 billion, as against about $411.3 billion in 1956. This is an increase of $23.2 billion, a little better than five percent, or

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about the same rate of expansion that 1956 showed over 1955.

I think we can see the reasonableness of this expectation. Basic factors appear to be no different in 1957 from what they were in 1956.

We know that Government spending is going to be higher. Such spending in 1956 was about $79.6 billion. For 1957, it will be about $84.5 billion. We can easily account for this increase of about $4.9 billion by programs that are already underway. State and local spending alone has been going up about $2-$3 billion a year, and certainly the additional need for schools, hospitals, highways, and other public works is just as urgent as ever. Then there is additional Federal spending for the existing farm-price support program and the new national highways, and an extended foreign aid program and additional military disbursements made necessary by our enlarged role in the Near East.

We can pretty will count on about $5.4 billion in additional spending represented by private domestic investment, bringing the total for 1957 to $70.0 billion against $64.6 billion for 1956. Residential construction will not be enlarged, but fixed business investment in the way of new plant and equipment is expected to go up by about $4.9 billion this year, and spending on increases in inventories will be enlarged by about $400 million.

Then, in personal consumption expenditures, we can anticipate an increase of about $12.9 billion. Such spending in 1956 was $266.1 billion. For 1957, it should be somewhere around $279.0 billion, or a gain of about 4.8 percent.

What this adds up to is an enlarged demand for funds by the Government, by business, and by consumers. Inasmuch as we are already operating at top capacity in terms of manpower, it follows that about the only way we can meet the increased demand for goods and services is through gains in efficiency. Long-time experience shows that about the most we can expect in terms of larger output from improvement in efficiency is a gain of about 3 percent a year. This, in itself, suggests that if we are to enlarge total spending by about 5 percent for 1957, about 2 percentage points of this gain will be represented by price rises. To the extent we inject more credit in the economy, in effect creating more purchasing power without increasing production, to that extent we will tend to raise prices.

By restraining inflation, we help to avoid deflation. The current program of monetary restraint, in short, is designed to avoid the boom-bust cycle that has so often plagued us in the past.

Third, we need a better understanding of how our monetary mechanism works. The key factor in the monetary system is our commercial banks, because they have the extraordinary power to create money. Banking is the only type of private business that has this extraordinary power. The limiting factor on this power is the amount of reserves.

Currently, member bank reserve requirements on net demand deposits are 20 percent at central reserve city banks, 18 percent at reserve city banks, and 12 percent at country banks. For a country member bank, this means that it may have deposits eight and one-third times the amount of its reserves. Putting it in another way, one dollar in country-bank reserves can support eight and one-third dollars of deposits.

Commercial bank deposits are created in two ways: (1) by depositors bringing coin, currency, and checks to the bank for credit to their accounts, and (2) by depositors borrowing money from the banks, signing notes and having the proceeds credited to their accounts. For every dollar of additional reserves a country member bank gets today, it can potentially lend eight and one-third dollars. When banks are lending more money than they are taking in as payments, they are creating additional purchasing power. When the banks buy Government securities, whether Federal, state, or local, they are, in effect, lending money to these governments and thus creating additional purchasing power for the economy as a whole.

We can see how this process works in terms of actual statistics. At the end of October last year, the commercial banks of the country had $88.8 billion in loans and $73.7 billion in investments, of

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which $57.4 billion was in United States Government securities. A year earlier, bank loans amounted to $79.2 billion and investments to $79.7 billion, of which $62.9 billion was in United States Government securities.

In 12-months' time, therefore, bank loans went up nearly $10 billion, and holdings of Government securities went down by 5½ billion. Insurance companies and other financial institutions also sold Government securities to obtain loanable funds. When sellers are more eager to sell than buyers are to buy, the price goes down.

This relationship explains why marketable Government securities are selling for less than their issue price. On Monday, January 21, this year, a number of key Government bond issues bearing 2½ percent were at bidding prices of about $90 on original issue value of $100.

With the demand for money pushing interest up, the value of fixed income securities goes down. At the same time, the price paid for new money is higher, and so we find the Government borrowing money on 90-day bills at a rate well in excess of three percent. The increased cost to the Government alone for the money it must borrow in 1957 is estimated at $800 million.

There is another way in which the Government bond market is related to the creation of purchasing power on the part of the banking system. We have noted that the power of the commercial banks to increase the money supply is related to their reserves. And it is in this relationship that the Federal Reserve Banks play such an important part. The Federal Reserve Banks can create money for the commercial banks just as the commercial banks can create money for individuals, businesses, and Government. In exercising this power, the Federal Reserve System works through three principal mechanisms:

1. The Federal Reserve Banks may lend money directly to the commercial banks, through what is called the discount process.

2. The Board of Governors of the Federal Reserve System may lower the reserve requirements of member banks, thus increasing the ability of member banks to lend money.

3. The Federal Open Market Committee of the Federal Reserve System may purchase Government securities in the open market, a process which directly increases reserves of member banks and thus makes it possible for them to enlarge their loans.

Federal Reserve powers, however, work both ways. By raising the discount rates, the Federal Reserve Banks can discourage member bank borrowing and thus reduce the ability of the member banks to lend money. The same effect is produced by raising the reserve requirements of member banks. And finally, if the Federal Reserve System sells Government securities in the open market, it automatically wipes out member bank reserves and thus reduces the banks' lending power.

The Federal Reserve System for more than a year now has been following generally a program of mild restraint. Discount rates at Federal Reserve Banks were raised from 1½ percent in early 1954 to the current rate of 3 percent. Reserve requirements have been unchanged since August 1954, but open market operations have generally been a restraining factor and have kept bank credit expansion under constant pressure.

Central banking, such as is represented by the Federal Reserve System, is by no means a simple mechanism. Through processes which are somewhat obscure to most people, the Federal Reserve System attempts to avoid unsustainable expansion on the one hand and to avoid undue contraction on the other.

The powers available to the System are not precise in their application and in their ultimate effect. Errors of judgment can be made in making money too tight or too easy. We can all take satisfaction in the fact that if any errors have been made in the exercise of Federal Reserve powers in recent years, they have not been particularly grievous. Certainly, ever since World War II, we have generally enjoyed continued economic expansion. And since the Korean War was brought under control, the American dollar has represented a monetary unit of generally stable purchasing power.

To be sure, since World War II, we have had fluctuations in business activity. In 1948, we reached a peak of expansion, followed in 1949 by a mild recession. In 1950 and 1951, we again experienced a considerable degree of inflation, but this was brought under control in March of 1951. In the latter part of 1953 and all of 1954, we experienced a mild interruption in economic expansion. Then, beginning in 1955 and continuing up to the present time, we have been, except for certain segments of the economy like home building and automobile manufacturing, experiencing a wave of expansion.

Throughout these fluctuations, monetary management has played an important part, putting the money market under pressure when pressure was needed and easing the money market whenever such easing appeared to be in order.

This record of generally effective central banking operation is too short to warrant the assumption that central banking techniques have been altogether mastered, and that we can look forward with complete confidence to maintaining our economy at boom levels. Central banking is only a part of the technique in achieving economic stability at a high-level performance. The Federal Government, in its tax and expenditure programs, also plays an all-important part in shaping our economic future. We all have the assurance that re-

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RESEARCH ON A LIMITED BUDGET

An Address
by
E. H. SCHULZ*

For a successful research program, what does the small manufacturer need? ". . . *a research man who has drifted toward administration* . . . ," says expert.

I welcome the opportunity to be here today because it is a pleasure to visit Tucson and to speak to groups concerned with business trends. There is a certain fascination about both—just as there is about research, the subject of my talk tonight.

In the next 20 minutes I would like to tell you a little about the conduct of research and development in this country and, in particular, to discuss the problems of the company that must conduct research with limited funds. Since you are all concerned with the welfare of industry in the region served by your institution, and since this industry includes many small companies, I am sure you all have an interest in the research problems of these small companies.

During the last two decades, as you all know, the United States has witnessed a phenomenal growth in the national economy. The gross national product has increased from $83 billion to more than $400 billion. And the output per man-hour has increased nearly 50 per cent. There are, of course, many reasons for these advances. But the driving force behind our expanding economy, in my opinion, is the unprecedented rise of organized research and development. If we were to glance back through the newspapers or magazines of 1936 we would see little or no mention of television, jet aircraft, transistors, titanium, nylon, nuclear power, or a host of other new products.

During this 20-year span the electronics industry has mushroomed from $240 million in 1936 to an estimated $6 billion today. Whole new industries have been born; magnetic recording, almost unknown in 1936, today is a one-third billion dollars industry. This period has seen research and development grow into a big business with far-reaching implications. Expenditures for research and development have skyrocketed from $175 million to $5 billion in the 20-year period. When the inflation factor is removed, this still is a growth of over 1,200 per cent.

What is significant to me is the fact that since 1936 over seven times as many dollars have been spent for research and development as in the entire history of the United States prior to that year. The best indication of the increased emphasis on research and development in this country is the rise of the independent, not-for-profit research institution, such as Armour Research Foundation. Only two such organizations existed in 1936, performing a combined research volume of about one million dollars. Today, there are 48 such organizations with a total annual volume of about $100 million.

For many years the world was dependent upon the lone inventor for its technological progress. It was such inventiveness that produced the electric bulb, the mechanical harvester, the automobile, and many other notable developments. Many of these early scientists, engineers, and thinkers conducted their experiments on a part-time basis in their basements, attics, or back yards. There were virtually no full-time scientists or engineers as we know them today.

However, with the increasing population and the expansion of industry came the need for a steady stream of new and improved materials, processes, and products. It was during this period of need—in the latter part of the 19th century—that organized research and development came into existence. In the years that followed, scientific inquiry was placed on a more formal basis, with much of the research and development being carried out in company and university laboratories. Since then, we also have seen the growth of extensive research programs in government laboratories, by trade associations, and at research organizations.

Scientific investigation has become a team effort, requiring the diverse talents of many scientists and/or engineers. The problems very often simply are too broad for a single individual. Other times, different approaches to a problem frequently can result in a better solution. The larger companies have met the challenge by establishing laboratories, installing the finest equipment, and hiring the best available teams of specialists. The General Motors Corporation research and development budget, for example, comes to about $250 million. Included in this total, however, are such things as styling, testing, and product engineering. Other companies having large research and development budgets include General Electric, $120 million; Bell Laboratories, $113 million; Du Pont, $66 million; and Union Carbide, $43 million.

Now, "How can a company with limited research funds hope to keep pace with these giants

*Dr. Schulz is Assistant Director of Armour Research Foundation of Illinois Institute of Technology, Chicago. This address was given at a dinner meeting of the **Associated University Bureau of Business and Economic Research** in Tucson, Arizona, on October 24, 1956.

of American industry?" The answer, of course, is that the smaller companies need not pour millions into research and development to be competitive. In fact, the research budgets of the major industrial concerns have not always been of multimillion dollar figures. Of the 4,000 industrial research laboratories in the United States today, the great majority still are operated on modest budgets.

At Armour Research Foundation we have numerous case histories where a moderate expenditure has resulted in a new or improved product for a small company. For example, a new jet engine component was developed for $20,000 for one small manufacturer. An improved clutch for an office machine resulted from a project costing less than $10,000. And a new food product was turned up in a $15,000 program for a cereal company.

It is estimated that American industry annually spends about two per cent of its sales for research and development. This is considerable variance between industries and between companies in the same industry. Some typical figures for 1955 are: Electronics 6.5%, Aircraft 5%, Chemicals 3.3%, Automobile 1.2%.

How much should a particular company actually spend on research? This depends upon the potential return, or possibly the lack of return, that may result if insufficient funds are expended on research. Market conditions, rate of technological advance within the industry, complexity of the product or service, and competitors' attitudes toward research are a few factors in the picture.

Unfortunately, there is no formula to tell a company what is the correct per cent of gross to spend. Management must take the facts and opinions of economists, the estimates of the researcher on costs and possibility of success, and its own hunches and somehow come up with the right answer.

To illustrate the problems of research on a limited budget, let's assume a $2.5 million gross sales and that somehow two per cent, or $50,000, has been arrived at as the desirable annual expenditure. How may this money be spent most effectively? Should a research department be set up? Should the research be farmed out to research institutes and universities? Should the company participate in trade association research? Should it use a combination of these?

First, to dispose of the trade association research, this can be very effective when tackling problems common to the entire industry, but is not useful on problems affecting the competitive position of individual companies.

For setting up a company research department, $50,000 a year will probably buy a three-man research department. In a highly specialized company, say an electronic instrument manufacturer, a team of three experts in the field can probably do an excellent job on most projects and will rely on outside help from time to time when problems outside its experience arise.

However, in the company having research problems in several fields, say plastics, metallurgy, electronics and heat transfer, a three-man team cannot be sufficiently skilled in all these fields to do an adequate job. To attempt to set up a department with a specialist in each of these fields will probably not be successful because top scientists these days insist on close association with others in their own field. Also, one cannot overlook the cost of the special equipment required for each of these fields.

I wish I could say it is obvious that the solution to this latter company's problem is simply a close association with a research institute. While this may well be a part of the answer, unfortunately there are many pitfalls in buying research.

Twenty years ago Armour was specifically organized to serve as a research agency for companies too small to have their own research departments. However, much of our work is done for larger companies, including those with the largest research departments in the country, such as General Electric, Du Pont, Union Carbide, and Westinghouse. This is not surprising since our various research departments must sell their own research projects—and then produce results. After these departments have conducted several successful scientific undertakings to find that the resulting savings the management hoped for would never justify the research expenditures, that the company has not properly evaluated the market, or has not considered the capital requirements to exploit the results, it is not surprising that they have a tendency to take their ideas to the larger companies that understand research because of their own research activity.

One of our department managers has spent a lot of time the last year in helping two companies obtain backing from other companies to provide the capital for plants to exploit two highly successful technical developments. This man should not spend his time in this manner, but, since he spent the company's research dollars, he feels an obligation —he doesn't want his department's good technical work to go to waste, and he is fearful of the effect on our reputation.

Thus, even when dealing with the best research organizations, the company must understand research, its possible payoffs, its chances of success or failure, costs beyond research required to exploit results, etc. For the small company this means a specific individual must understand these problems. The individual with sufficient skill in this area cannot be happy being the director of a two- or three-man research department. Thus, the best bet is to obtain a research man who has drifted towards administration and whose ambitions are

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DECEMBER
ATLANTA AREA ECONOMIC INDICATORS

ITEM	December 1956	November 1956	% Change	December 1955	% Change	% Change 12 Months '56 over 12 Months '55
EMPLOYMENT						
Job Insurance (Unemployment) Payments	$241,641	$249,718	−3.2	$207,032	+16.7	+3.5
Job Insurance Claimants†	4,375	3,718	+17.7	3,092	+41.5	−0.8*
Total Non-Ag. Employment	350,600	346,350	+1.2	332,900r	+5.3	+5.4*
Manufacturing Employment	90,550	90,800	−0.3	90,350r	+0.2	+1.5*
Average Weekly Earnings, Factory Workers	$79.07	$77.49	+2.0	$71.28	+10.9	+4.3*
Average Weekly Hours, Factory Workers	41.4	41.0	+1.0	41.2	+0.5	−1.2*
Number Help Wanted Ads	7,522	9,687	−22.4	6,756	+11.3	+6.1
CONSTRUCTION						
Number of Building Permits, City of Atlanta	424	647	−34.5	532	−20.3	−8.8
Value Building Permits City of Atlanta	$4,149,263	$5,136,245	−19.2	$2,840,560	+46.1	−22.5
Employees, Contract Construction	18,563	18,800r	−1.3	18,800r	−1.3	+3.6*
FINANCIAL						
Bank Debits (Millions)	$1,645.4	$1,506.5	+9.2	$1,598.1	+3.0	+6.7
Bank Deposits (Millions) (Last Wednesday)	$1,112.0	$1,084.7	+2.5	$1,094.3	+1.6	+1.6**
POSTAL §						
Postal Receipts	$1,786,484	$1,557,230	+14.7	$1,990,122	−10.2	−3.0
Poundage 2nd Class Mail	1,422,434	1,414,495	+0.6	1,263,319	+12.6	−1.2
OTHER						
Department Store Sales Index (Adjusted) (1947-49=100)	147	156	−5.8	150r	−2.0	+2.0¶
Consumer Price Index (1947-49=100)	119.5	118.9s	+0.5	117.1	+2.0	+1.5*
Retail Food Price Index (1947-49=100)	111.1	110.4	+0.6	108.3	+2.6	0*
Number Telephones in Service	293,664	286,317	+2.6	271,185	+8.3	+8.3**

r—Revised
§City of Atlanta only.
*Average month
**End of period
N. A.—Not Available
¶—Based on retail dollar amounts
s—September

†Claimants include both the unemployed and those with job attachments, but working short hours.

Sources: All data on employment, unemployment, hours, and earnings: Employment Security Agency, Georgia Department of Labor; Number Help Wanted Ads: Atlanta Newspapers, Inc.; Building permits data: Office of the Building Inspector, Atlanta, Georgia; Financial data: Board of Governors, Federal Reserve System; Postal data: Atlanta Post Office; Retail Food Price Index: U. S. Department of Labor; Department Store Sales Index: Federal Resere Pank of Atlanta and Board of Governors, Federal Reserve System; Telephones in Service: Southern Bell Telephone and Telegraph Company.

BUSINESS ACTIVITY IN DECEMBER

For the most part, business activity in December was little changed from November. In many of the series, for which latest data is shown on the opposite page, the increase or decrease is the effect of seasonal factors. Many types of activity exhibit regular fluctuations with the changing seasons and December is, in many cases, the month in which this type of movement is most pronounced.

The total value of **Job Insurance Payments** moved upward again in 1956 after declining almost every month of 1955. After January 1956, the **Number of Job Insurance Claimants** and, as a result, the value of payments to claimants, began to rise, reaching the high point of the year in May. Thereafter, the movement of both series was downward. For the year, the number of claimants was down 0.8 per cent and the value of payments up 3.5 per cent.

Data on employment in Atlanta, the other side of the picture, was much brighter. **Total Non-Agricultural Employment** rose steadily during all of 1955 and continued to rise in 1956. It turned sharply upward during the last quarter of 1956, reaching an all time high of 350,600 in December. **Manufacturing Employment** exhibited a different sort of movement, falling during the first seven months of 1956 and rising during the closing months. The number employed in factories in Atlanta was 81,400 in January of 1955 and rose rather sharply during all but the last two months of the year, averaging 87,400 for the year. Although manufacturing employment in no month in 1956 reached as high as the 91,000 peak reached in October 1955, the rise late in the year pushed the average for 1956 to 88,000 against 87,400 for 1955.

Average Weekly Earnings of workers in manufacturing establishments reached a record high of $79.07 in December 1956, up 10.9 per cent over the same month in 1955. Earnings moved erratically upward during 1955, with sharp drops in December 1955 and in January 1956. Thereafter, throughout all of 1956, earnings rose steadily and sharply for a total increase by December of $7.79 per week over December of 1955. Average number of hours worked per week in 1956 was 40.2 against 40.7 for 1955, down 1.2 per cent.

In connection with earnings data, it is interesting to note that while Atlanta has 26.5 per cent of the state's manufacturing employment, 34.5 per cent of estimated manufacturing payrolls are disbursed in the area. In 1949, the figures were 21.9 per cent of the employment and 26.1 per cent of the pay roll.

The **Number of Building Permits** issued in 1956 was off 8.8 per cent from the previous year. Although 1955 was a very good year in respect to the number of permits issued, a down trend developed early in the year and carried over into 1956. The 424 permits issued in December 1956 was the lowest recorded for that month since 1951.

Value of Building Permits in 1956 was down $17.3 million or 22.5 per cent from 1955 and $28.2 million from 1954. **Employment in Construction** decreased rapidly during the last half of 1956 and in doing so wiped out most of the gain made earlier in the year. Average monthly employment, at 20,050 for the year was 3.6 per cent above 1955.

The annual level of **Bank Debits** has risen rather steadily for several years and there is no indication that a turning point is near. The total for 1956, $18.4 billion, is 6.7 per cent greater than the 1955 total and 36 per cent greater than the $13.5 billion in 1952. During the last quarter of 1956, Atlanta ranked sixteenth in the nation in aggregate amount of bank debits.

December **Department Store Sales,** adjusted for seasonal variation, were off 5.8 per cent from November and off 2.0 per cent from December 1955. The index, based on the 1947-49 average equal 100, was 147 in December 1956. For the year, department store sales were up 2.0 per cent.

The **Consumer Price Index** for the last quarter of 1956 was 119.5. This index also has as its base the average of the period 1947-49. The index has

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RESEARCH ON A LIMITED BUDGET

(Continued from page 5)

in administration and assign him responsibilities in management broader than research alone.

Now, having the proper understanding of research, the company's next problem is to choose the correct research organization from which to buy a particular research project. This organization must have a competent staff in the field of the project and should have a diversified staff to back up the scientists on the project in other areas. Some shopping is in order before making a choice. A visit to the laboratories permits direct discussion with the scientists who will be responsible for solutions to the project.

The good scientist's estimates of possible results are usually more pessimistic than they should be, but his cost estimates may be optimistic. In the more mature organizations the research department manager usually will supply the proper correction factors, particularly on cost, and will give a realistic figure. But don't forget even the best will miss. If you can guarantee an answer, and particularly at a specified price, it isn't research.

After selecting the organization and starting a project, it is essential for the company to maintain close contact with the project. A sure way to failure is to sit back and wait for the research project to be delivered at completion. Frequent meetings, say monthly, to review the project help to maintain the scientist's enthusiasm and thus assure his best efforts. Also, it is impossible for him, without the company's help, to assure that his work does not take a direction that is in conflict with some aspects of the company's operation of which he is not aware.

A continued association with the research organization also should produce a working relationship whereby the research staff can frequently make contributions over and above the problems assigned to it for solution. For example, the research staff's broad experience working for a variety of types of industries may make it possible to suggest new uses or improvements in the product based upon experience in entirely unrelated industries.

To illustrate the possibilities of contract research I would like to quote some of the remarks made earlier this year by George Ensign, director of research at Elgin National Watch Company. Here is what Mr. Ensign had to say about using outside research services:

> In our case, the organizations with which we work make available to us more millions of dollars worth of equipment, and operators trained to use it, than we could dream of purchasing for use in our home laboratories.
>
> We have learned also that the consulting aspect of our relationship with these laboratories is invaluable. Literally hundreds of the most excellent technical men and their best thoughts are available to us through consultation, and through personal acquaintanceship.
>
> A unique feature of the service offered by these agencies lies in the exclusivity of their relation to a sponsor. Not only do they honor the confidences that must of necessity exist between their staff and the sponsor, but to insure that a satisfactory atmosphere will be maintained, only one sponsor in a particular field will be admitted. The laboratories' work in this field, therefore, is available to him exclusively. This includes delivery to him of patent rights resulting from their work for him, control over the publication or dissemination of papers, data, or even reference to the nature of the work being performed for him.

I believe you will find that the comments of Mr. Ensign are typical of those who work regularly with contract research organizations.

The effect of research and development on profits is much greater than many people would like to believe. A recent study by a leading economist tends to back this correlation. The study was made of the research and development expenditures of 11 industries between 1947 and 1953. It showed that the industries which spent the most for research and development also had the greatest increases in profits, while those which spent the least gained the least. The study pointed out that the top three industries which allocated 5.7 per cent of sales for research and development had a 52 per cent gain in profits. The next three industries spent 0.9 per cent on research and had a nine per cent gain in profits. The lowest three industries spent 0.2 per cent on research and saw their profits shrink three per cent. However, the expenditure of large sums of money for research and development does not automatically assure greater profits, or even a profit.

There is no question however, that a properly operated research and development program—whether it be internal, external, or both—greatly increases the chances for success. I feel this is just as true for the company with a limited research budget as it is for General Motors with its $250 million research budget. I hope you will go away from this meeting with the same feeling.

Thank you.

BUSINESS ACTIVITY

(Continued from page 7)

risen 2.0 per cent since the last quarter of 1955. The average for the year was 118.1.

The **Retail Food Price Index,** which is a component of the Consumer Price Index, stood at 111.1 for December 1956, up 2.6 per cent from the same period in 1955. For the year, however, there was no change in the index from the preceding year.

SELECTING SALESMEN IN THE SOUTH

By

C. W. EHLERS*

(Dr. Ehlers' article on *Recruiting Salesmen In The South* appeared in the January, 1957, issue of THE ATLANTA ECONOMIC REVIEW.)

One of the principal tasks which confronts the average sales manager is that of constantly improving the effectiveness of his sales force. Much thought and effort are being given to training methods and to proper supervision, equipment, sales aids, and the advertising program. But the basic ability of the salesman sets a constant limit to what can be accomplished after he is employed. Unless he is properly selected he cannot be developed beyond a certain point, a point which is often far below the standards of effectiveness which must be established. For this, as well as for other reasons, sales managers are giving increased thought to securing the right type of man as a partial solution of the important problem of decreasing the cost of distribution. Scientific methods are being substituted for the older trial-and-error methods so far as possible.

The procedure followed in the selection process may be of either short or long duration, comprehensive or sketchy. Many small concerns do little more than interview men before selections are made. They depend entirely upon subjective evaluation of a man's characteristics in one or more interviews. Other concerns go through an elaborate process, including interviews by a number of executives, investigation of past experience, contact either by letter or in person with references, and psychological tests before the successful applicants are finally offered positions. By so doing, these concerns get away from the purely subjective evaluations and rely more on objective evidence. In general, it may be said that, when obtainable, objective evidence should be secured and relied upon more heavily than the conclusions reached by observation during interviews.

THE COST OF POOR SELECTION

Certain distinct losses follow poor selection. One such loss is the high turnover rate which follows poor selection. If the man employed does not have the proper physical and mental faculties or if his background of experience and training is inadequate, eventual separation from employment is inevitable. If he does not have the right mental attitude toward sales work, if he lacks personal initiative, drive, or courage, or if family or personal financial problems take too much of his thought, success is unlikely. If selection methods can be used which will aid in determining such limitations in advance of employment, turnover rates will be reduced. Too great a turnover involves a number of costs. First, the expense of hiring is increased since it is necessary to repeat the process too many times. Modern methods of hiring cost considerable amounts. The use of tests involves some expenditures, and the increasing tendency of having applicants interviewed by more than one executive often takes not only time but money.

A second cost of turnover is increased training costs. For example, Mr. Steinkamp, field sales manager of Minneapolis-Honeywell Regulator Company, states[1] that the experience of the company indicates that it takes about two years to develop a new man to the point where he produces enough business to more than pay his way and to make a little profit for the company. It usually requires a minimum of one year (more often two) to determine whether or not a new man will ultimately be successful, whether the company has made a wise selection, and whether the man has chosen the right profession. It costs between $7,500 and $10,000 to carry a man through this period, and this can be a total loss if the man does not work out satisfactorily. Certainly Minneapolis-Honeywell must think carefully before it makes such an investment. The salary of the man while he is undergoing training is one cost. Still more expensive, usually, is the time of the executives who carry out the program.

Another cost of high salesman turnover is the effect on prospects or customers. Few men when new in a territory work as effectively as they do after they have become accustomed to the product, its uses, its resale conditions, and dealer attitudes. If a new man is constantly being sent to a territory the buyers in it begin to wonder why the house cannot retain its salesmen. Also new men often destroy good will which has been built up only by the expenditure of much time and effort. They do not know how to meet objections properly, to make adjustments, or how to do creative sales work.

Still another aspect of the cost of poor selection is that one never knows how much is lost by employing men who are just under the effectiveness which would have resulted from more adequate

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1. **Management Review**, October, 1951, p. 629.

selection methods. Present methods of territory evaluation have not gone far enough to enable a sales statistical department to say that one man is getting all that he should from a territory or that a second man is not working it effectively. Much has been accomplished, but still it cannot be said what the effect would be if every man were well adapted to his territory, to his product, and to his particular list of customers. When this adaptation is not adequate a group of men who are thought to be effective, but who in reality are only performing at 50 per cent or 75 per cent of effectiveness, is carried indefinitely. Both the men and the sales manager are satisfied, for they do not know what would have resulted had the men been selected with more care and with the use of modern selection technique.

A study made in 1955 by the American Management Association[2] of 179 firms which employ salesmen revealed the over-all cost of making a mistake in hiring a salesman. The average figure reported was $6,684; 24 per cent of the companies stated that the total cost to the firm, when a man hired for a sales job proved unsatisfactory after a fair trial, was more than $10,000. The $6,684 average compares well with the figure cited by a representative of the Standard Register Company at an American Management Association conference in May, 1954.[3] In this company, a total estimate of $6,550 included the following costs: recruitment (advertising and agency fees and related expenses), $100; interviewing by the field sales manager (about 60 hours per man hired), $450; training, $2,000; sales costs in excess of the costs of a trained salesman, $4,000. In addition, the difference in annual sales between a new and an experienced man in this organization averages $30,000. No less costly, though intangible, is the loss of good will through inept handling of customers by inexperienced salesmen. When these costs per man are multiplied by the number of sales personnel who leave or are fired, the effect of selection mistakes on the company's profits is obvious. Several firms have estimated that they lose 50 to 60 per cent of their new salesmen during the training period. Not to be overlooked, also, is the difference between the sales productivity of the best and the worst salesmen on the force. The difference probably exceeds the cost of the mistakes in hiring that are recognized within the first year.

TOOLS FOR SELECTING SALESMEN

The purpose of this section is to compare the tools used on the national level in selecting salesmen with those selection tools which are used by selected firms in the South.

The National Selection Pattern

As for the national selection pattern, a study was made in 1955 by the American Management Association of selection tools used by 179 firms.[4] According to this survey all the firms conducted interviews in selecting salesmen, all the firms made reference inquiries, 95 per cent of them used tests as a selection tool, 70 per cent of the companies required a medical examination of applicants before hiring, and 43 per cent used weighted application blanks. The study also indicated that 84 per cent of these firms had two or more persons interview the applicant for a sales position.

These 179 firms were next asked to rank these selection tools according to their importance. Many of the companies had difficulty in singling out any one method as more important than the rest.

TABLE I

SALESMEN-SELECTING DEVICES AS PREFERRED BY 128* AMERICAN FIRMS, 1955

Selection Device	No. of Firms Giving Device First Choice	% of Firms Giving Device First Choice
Interviews	70	55%
Tests	13	10
Application Blanks Or Personal History Forms	4	3
All Three of the Above	8	6
Interviews and Tests	12	9
Interviews and Work History	6	5
Interviews and Recommendations	5	4
Other	10	8
Total	128	100%

*Fifty-one of the 179 firms surveyed did not give preferences as to selection devices.

Table I indicates the relative importance of or dependence on selection devices as indicated by the 179 firms. There were 51 firms which did not answer the question, and that, plus the tabulations in Table I, would seem to indicate reliance on a wide variety of selection techniques with major dependence on interviews backed up by tests.

Selection Tools Utilized In the South

In order to obtain an indication of the selection pattern in the South, 48 case studies were made of companies which employ salesmen and which operate in one or more or all of the southern states of Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, Louisiana, South Carolina and North Carolina. Over 35 different industries are

2. A Company Guide To The Selection of Salesmen, American Management Association, Research Report No. 24, 1955.
3. Personnel, July, 1954, p. 4.
4. A Company Guide To The Selection of Salesmen, op. cit., p. 85.

represented in the 48 companies which were interviewed for this study.[5]

The sales managers and/or personnel managers of the southern headquarters or district offices of these firms located in Atlanta, Georgia, were interviewed to ascertain which tools or devices are now being utilized to select sales personnel. In addition, these managers were asked to rank, if possible, these tools according to their importance in selection. The selection tools used by the 48 companies interviewed ranked according to frequency of use are found in Table II. Over two thirds of these southern firms are now utilizing tests; and over 80 per cent of them are using interviews, recommendations and references (personal, employment, credit, and educational), and application blanks in selecting their sales force. It is encouraging to note that 30 per cent of the firms interview the applicant's wife. Incidentally, 89 per cent of these firms had two or more executives interview the job applicant.

TABLE II

SALESMEN-SELECTING DEVICES LISTED ACCORDING TO FREQUENCY OF USE BY 48 SELECTED SOUTHERN FIRMS, 1956

	Number and Per Cent of Firms Using Each Tool	
Tools	**Number***	**Per Cent**
Interviews	48	100%
Recommendations**	42	88
Application Blanks	41	85
Tests	32	67
Interview With Applicant's Wife	14	30
Physical Examinations	10	21
Trial Periods	10	21
Personal History Forms	9	19
Rating Forms	5	10

*The total of column "Number" obviously does not equal 48, as firms use more than one device.
**Recommendations included investigating personal, employment, educational and credit references.

Table III shows the tools used in selecting salesmen ranked according to their importance. Over 85 per cent of the companies ranked interviews as the most important selection tool. Tests ranked second, with recommendations third in importance. Physical examinations and trial periods could not be included in Table III since all applicants had to pass the physical examination prior to employment and had to go through a trial period before final selection was made by the firms using these tools.

There are many possible procedures for the selection of salesmen, and they all have some merit and some weakness. No one procedure is entirely satisfactory by itself, since the procedures are more complementary than substitutional.

A combination of methods is needed, including: observation in interviews; inference from the prospect's personal history or direct investigation; evaluation of the prospect by references; and measurement of characteristics through testing procedures. Each can contribute something to the selection process. The various parts of the selection procedure may well be thought of as hurdles which the applicant must take in stride if he is to be selected. He may not be equally successful in clearing all hurdles, but conspicuous weakness on one or more creates serious doubt of his acceptability for a selling job. It is a question of accumulating sufficient evidence on a prospect's qualifications to make a sound judgment. The various means which may be used in the selection process can be justified only if each contributes toward more effective selection.

TABLE III

SALESMEN-SELECTING DEVICES RATED ACCORDING TO IMPORTANCE BY 48 SELECTED SOUTHERN FIRMS, 1956

Tools	RANK I No. firms	II No. firms	III No. firms	IV No. firms
Interviews	41	5		
Tests	3	17	8	
Recommendations	1	15	22	
Application Blanks		5	11	4
Rating Forms	1	2		
Personal History Forms		2	2	

Note: The above totals are not the same in all cases as those found in Table II, since some of the firms were unable to rank the various selection tools according to their importance.

Comparison of National with Southern Selection Tools

The selection pattern in the South as indicated by the survey of 48 firms compares very favorably with the national selection pattern described earlier in the article. For example, all the firms at both the national and southern level conducted interviews; all the firms at the national level made reference inquiries, while 90 per cent of the southern firms made such inquiries. Nearly all the national firms used tests as selection tools, and over two thirds of the southern firms gave tests to sales applicants. Nearly 90 per cent of the southern firms had two or more persons interview the sales applicant, and 84 per cent of the national concerns had two or more interviews per applicant. The only area where a wide divergence of practice occurred was the use of physical examinations; that is, 70 per cent of the firms at the national level gave these examinations while only 21 per cent of the southern companies used physical examinations as a selection tool. The above comparison reveals that there is little difference between the national selection pattern and the selection pattern of the 48 southern firms.

IMPROVEMENTS IN SELECTION

The question now arises as to the possibilities of

5. Types of industries represented in this study were listed in the article **Recruiting Salesmen In The South**, on page 2 of the January, 1957 issue of THE ATLANTA ECONOMIC REVIEW.

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improvement in selection. For a particular concern, the question of improvement depends largely upon the methods currently in use. If men are selected for sales jobs after cursory examination, featuring single interviews by relatively untrained people, the effective tools available to management in this field are not being used, and improvement therefore can be substantial. Unfortunately for the small concern, there is no general test of sales ability which is useful in selection for all concerns. Experience in the development of a selection program, but not the program itself, can be carried over from one concern to another.

Sound selection is a custom-made process. The use of standard or syndicated selection forms, or procedures which have been used by other sales organizations in selecting salesmen rarely is effective. The wide differences in salesmen's tasks and qualifications for selling demand a custom-made procedure for selection. Standardized selection tools, such as uniform application forms, standard batteries of aptitude tests, and standard interview rating forms, are not applicable to all types of sales jobs. A successful selection program should be tailored to the specific needs of the sales organization.[6]

The Need For Job Descriptions

The Dartnell Corporation recently conducted a survey of national concerns,[7] and one of the most striking developments indicated was the steadily increasing number of companies that have adopted some form of job description or are seriously planning to do so in the near future. The survey of 48 southern firms revealed, however, that only a handful of these companies has made job analysis or prepared job descriptions of their sales positions. A knowledge of the nature of the sales job and the qualifications needed to perform it effectively are the foundation of a good selection plan. Without a job description it is most difficult to select the right man for the job. Thus, it would be to the advantage of sales managers to consider seriously the possibility of making job analyses and sales job descriptions in the near future.

Improvement in selection for those concerns which have been particularly effective in the field of job analysis must come from an improvement in techniques—a product of experimentation and other research methods. Experimentation with known methods and procedures by individual companies and trade associations should continue to be productive. Any improvement in practice, whether the result of new techniques, a further refinement of those now in use, or their adoption for use by additional concerns, will aid in the attainment of important objectives for both the concern itself and the southern economy. There is no problem of greater importance in any economy than that of securing effective adjustment of individuals to jobs. Business concerns can make a significant contribution to the economy through the improvement of selection procedures.

6. **Sales Administration** (New York: Prentice-Hall, Inc., 1954), p. 82.
7. **Selecting Good Salesmen** (Dartnell Corporation, 1955), p. 10.

THE BUSINESS OUTLOOK

(Continued from Page 3)

sponsible Government leaders are determined to follow policies which will result in maximum employment, production, and purchasing power, and that they are generally content to allow the Federal Reserve System to carry out its responsibility in seeing to it that the country's monetary mechanism contributes to economic stability rather than aggravating economic instability.

If there are those who will be inclined to get impatient with their bankers in 1957, they should remember that the bankers are performing one of the key jobs in our economic mechanism, according to high standards of judgment, integrity, and personal knowledge of local credit needs. The banker has no unlimited supply of credit to distribute; he must apportion it as he thinks best. Tighter money is the result of mass determination to spend more money than there is available. It is not the result of hard-hearted plotting on the part of the bankers to discipline the economy.

When the supply of loanable funds is more nearly in balance with the demand for such funds than is now the case, only then can we anticipate a return to easier money conditions. No one can anticipate precisely when such a balance will be attained. In consideration of the expansion factors at work at present, there appears to be little warrant for any early expectation of an easing of the "tight money" situation. We can speed the realization of that expectation by saving more and spending less.